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### Fortification of foods with folic acid and iodine

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## Fortification of foods with folic acid and iodine

### Abstract

Last year, Food standards Australia New Zealand (FSANZ) made two key proposals for the mandatory fortification of foods in Australia with folic acid and iodine.<sup>1,2</sup> In the case of folic acid, the goal is to increase the folic acid intake of women of child bearing age in order to reduce the incidence of neural tube defects (NTDs) such as spina bifi da and related birth defects. Fortifi cation of foods with iodine aims to increase the intake of this nutrient by women of child bearing age, and of children to reduce the prevalence of iodine deficiency (including goitre and impaired intellectual development).

### Keywords

acid, folic, fortification, foods, iodine

### Disciplines

Arts and Humanities | Life Sciences | Medicine and Health Sciences | Social and Behavioral Sciences

### Publication Details

Flood, V. M. 2007, 'Fortification of foods with folic acid and iodine', Prevention Research Centres Newsletter, vol. 2, no. 1, pp. 5-5.

# What's new in prevention?

## *News on nutrition, physical activity and weight research*

### Prevention Research Centres Newsletter

#### Who participates in mass cycling events?

Heather Bowles



Participation in public events involving physical activities such as cycling may be a novel way to encourage adults who do little or no physical activity to get more exercise. The application of this strategy to public health has not been investigated thoroughly. To assess changes in cycling ability and frequency after taking part in a public cycling event, a research team from the Centre for Physical Activity and Health recruited 918 men and women aged 16 years and older who registered online for the Sydney Spring Cycle in 2005.

Participants completed an online follow-up questionnaire which provided information on their self-rated cycling ability, lifestyle physical activity, and number of times they rode a bicycle during the month after the cycling event. The CPAH research team found half of the survey respondents that rated their cycling ability as low before the event, subsequently rated it as high one month after the event. Respondents that perceived their cycling ability as low before the event, reported an average 4 sessions of bicycle riding the month before the event, which increased to an average 6.8 sessions of bicycle riding a month after the event. Similarly, first-time participants in this particular cycling event significantly increased average sessions of cycling from 7.2 pre-event to 8.9 sessions one month after the event. Further knowledge about the public health application of mass events is needed, and methods for attracting less active and novice individuals to participate remain to be developed.

Reference : Bowles HR, Rissel C, Bauman A. Mass cycling events: Who participates and is their post-event behavior influenced by participation? International Journal of Behavioral Nutrition and Physical Activity 2006, 3: 39.

Vol 2, Issue 1, April 2007

#### IN THIS ISSUE...

Page 2

- From the Editor
- Family spending on active recreation

Page 3

- Coalition streamlines child obesity action messages

Page 4

- NSW physical activity trends

Page 5

- Food fortification

Page 6

- Images of obesity

Page 7

- Unhealthy food marketing to children

Page 8

- News and Events

#### CONTACT US



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This edition of "PRC news" features a number of articles on people and projects which describe how our centres are building capacity in public health nutrition, physical activity and obesity prevention through placements, networks and grants. We are also actively involved in building our capacity for media, media analysis and advocacy, as evident from the articles on communication messages, media representation of obesity and food marketing. These studies illustrate some of the ways in which media are arguably contributing to our current obesogenic environment. In fact, we provide the first release of information from a study which shows

that families spend more money on screen recreation than they do on active recreation. At the same time, the trends in adults' physical activity and results from a survey of cyclists show that many of us are out and about in active ways, at least some of the time.

★ Lesley King

## How much do families spend on active recreation?

Robert Aitken\*

Children's physical activity levels and screen recreation patterns, as well as increased energy intake, are thought to contribute to recent increases in the proportion of children who are overweight. Costs associated with children's organised physical activity is frequently cited as one of the factors that influence the level of physical activity that children undertake - a barrier that limits participation and encourages sedentary behaviour. However, there is no body of information which actually describes how much families spend on physical activities for their children.



A research team from the Centre for Overweight and Obesity (COO) investigated how much families spend on physical activity, compared to costs associated with screen recreation. The researchers obtained data from the 2003-04 Australian Bureau of Statistics (ABS) Household Expenditure Survey (HES) to examine families' expenditure patterns. The ABS survey provided information on expenditure for items that are related to active (physical) recreation, including equipment, specialised clothing, or services associated with organised and non-organised sport and activities. It also included data on items related to screen (sedentary) recreation such as watching TV, DVDs, playing video and computer games, internet use, and cinema. The COO team analysed expenditure patterns using number of household socio-economic and demographic characteristics including family structure, disposable income, and number of children to determine types of households more likely to promote active recreation over screen recreation.

The overall results show that families spend more on screen recreation items than they do on items associated with active recreation. In 2003-4, Australian households with dependent children spent an average of \$14.59 per week on core active recreation and \$31.69 per week on screen recreation. Expenditure on core active recreation comprised 1.4% of average weekly disposable income, and expenditure on screen recreation 3.1% of average weekly disposable income. However, the patterns of expenditure on active versus screen recreation varied according to household characteristics, including income and number of dependents. More detailed results will be published and available soon.

\* Robert Aitken is on placement with COO as part of the NSW Health Biostatistics Training Program. For more information on the study: Contact Lesley King or Adrian Bauman

## Communications on Obesity Action for Child Health



The profusion of messages in circulation about childhood obesity, nutrition and physical activity leaves parents, health professionals and teachers confused about how they should influence children's food and physical activity choices.

Recognising the urgent need to streamline communications on childhood obesity across the media, the food industry, government and non-government organisations, the Healthy Weight Alliance Australia along with seven other major NGOs involved in nutrition, physical activity and the prevention and treatment of obesity, has picked up the challenge.

The result is the inauguration of COACH (Communications on Obesity Action for Child Health) in 2006, a coalition of significant non-government organisations and two major academic centres studying obesity prevention, to oversee an innovative communications initiative on childhood obesity.

Drawing on new and existing knowledge about childhood obesity issues, COACH systematically developed message principles from objectives, and rationales for how the desired outcome could potentially influence energy balance and contribute to the prevention of unhealthy weight gain.

The message principles will provide the foundation for a communications strategy that aims to deliver cohesive and targeted messages to parents, health and education professionals and policy makers.



Nutrition messages focused on fruit and vegetables, drinks, confectionery, fast foods, breakfast, desserts, whole grains, school lunches, and breastfeeding; while physical activity messages focused on planned and unstructured activity, TV and screen time, and active transport. Other messages were on family meal times, food fundraisers, and healthy weight.

Twelve months of COACH collaboration has cumulated in the document, *Draft Key Messages and Communication Strategy*, which will form the basis for further phases of the project. These phases will involve prioritisation of key messages, and effective dissemination, implementation and evaluation of the communications strategy, to be rolled out over three years.

The long term goal of the COACH project is to ensure that the messages on childhood obesity coming from NGOs, and as far as possible from other sources, are clear, consistent, evidence-based and relevant. This will be a vital part of national efforts to control the obesity epidemic - one of the biggest threats to the health of Australian children.

The COACH project was conducted by the Australasian Society for the Study of Obesity and funded by the Telstra Foundation. Alex Wilde was the Project Officer, based at the Prevention Research Centres. For Further information, contact Tim Gill.



# More people are now sufficiently active in NSW than in previous years

Josephine Chau



A new report shows NSW is the only state in Australia to have recorded a sustained increase in physical activity among adults.

The Centre for Physical Activity and Health report, *Trends in population levels of sufficient physical activity in NSW, 1998 to 2005*<sup>1</sup> launched on 6 February by the Health Minister, John Hatzistergos, examined trends in physical activity participation in NSW over eight years. The data suggests the proportion of NSW adults participating in sufficient physical activity (at least 150 minutes of walking, moderate and/or vigorous activity per week over at least five occasions) has increased significantly since 2003:

The report found:

- The prevalence of sufficient physical activity was stable from 1998 (47.6%) to 2002 (46.5%), decreased in 2003 (44.7%), increased markedly in 2004 (50.5%) and remained steady in 2005 (51.3%).
- Increase in sufficient physical activity levels occurred for both males and females, in the 35-44 and 45-54 age groups, across BMI categories, in the third and fourth socioeconomic status quintiles, in major cities and in three AHS areas of residence (Sydney South West, Sydney West, and Northern Sydney Central Coast).

- Walking was a major contributor to the change in prevalence of sufficient physical activity, with increased participation in walking since 2004. There were also some increases in moderate and vigorous activity.

- NSW is the only state showing a sustained increase in prevalence of sufficient physical activity compared with other states using the Active Australia Survey<sup>2</sup>.

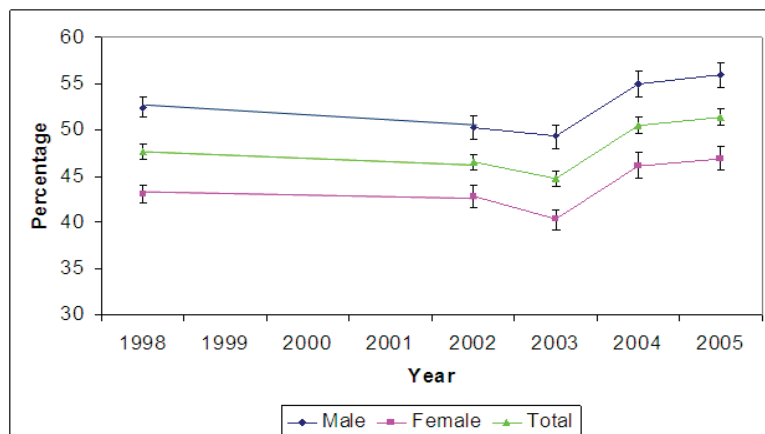
The report considered that public perception of physical activity as socially desirable and increasing media coverage of physical activity and obesity may have influenced increases in the prevalence of sufficient physical activity. Trends towards cycling or walking to work or school, and the intensive promotion of physical activity in NSW in the late 1990s could also be contributing factors.

The report suggested changes to Area Health Service boundaries, sample size and survey response rates were unlikely to have affected physical activity levels. Similarly, the inclusion of household and gardening activity questions in the survey in 1998, 2002 and 2005, and their omission in 2003 and 2004; increased exercise and sport participation rates between 2001 and 2004; and weather and seasonal variation probably had little or no influence.

For more details from the report, please visit the CPAH website:

<http://www.cpah.health.usyd.edu.au/research/reports.php>

Participation in sufficient physical activity for males, females and all persons in NSW, 1998-2005



## References

<sup>1</sup>Chau J., Smith, B., Chey T., Merom D., Bauman A., *Trends in population levels of sufficient physical activity in NSW, 1998 to 2005: Full report*. January 2007. Report No. CPAH06-001c.

<sup>2</sup> *The Active Australia Survey. A guide and manual for implementation, analysis and reporting*. Australian Institute of Health and Welfare, Canberra 2003..

Vicki Flood



Last year, Food standards Australia New Zealand (FSANZ) made two key proposals for the mandatory fortification of foods in Australia with folic acid and iodine.<sup>1,2</sup> In the case of folic acid, the goal is to increase the folic acid intake of women of child bearing age in order to reduce the incidence of neural tube defects (NTDs) such as spina bifida and related birth defects. Fortification of foods with iodine aims to increase the intake of this nutrient by women of child bearing age, and of children to reduce the prevalence of iodine deficiency (including goitre and impaired intellectual development).

The FSANZ proposal recommends a level of mandatory fortification of 80-100mg of folic acid per 100g of bread. FSANZ estimates, based on data available about food consumption, that fortification of bread will deliver a mean increase in folic acid of 101 and 140mg to women who regularly consume bread in Australia and New Zealand, respectively. This is estimated to reduce NTDs each year in up to 49 pregnancies in Australia and 14 pregnancies in New Zealand.<sup>1</sup> The proposal received extensive public comment and was considered by the Australian and New Zealand Food Regulation Ministerial Council in October 2006. 'In principal' agreement was given for folate fortification however some technicalities of the standard are still to be finalised.

The preliminary FSANZ proposal recommended mandatory addition of iodine to salt, ranging from 20-45 mg per kg of salt in breads, breakfast cereal and biscuits. Based on available data about food consumption, this will increase the mean intake of iodine by approximately 37-42mg per day in children and 47-64mg per day in women.<sup>2</sup> The problem of iodine deficiency has been highlighted by recent research which has found a high proportion of children and pregnant women, especially those in South Eastern Australia and New Zealand have mild to moderate iodine deficiency. This is of particular importance for the developing brain and nervous system.<sup>3,4,5</sup> There has been a decline in iodine intake over the last 10-15 years due to a change in food

processing techniques which previously used iodine for sanitation, and a lower proportion of people using iodised salt.

Salt has been selected as the food 'vehicle' to deliver iodine, based on successful international experience and is consistent with recommendations of the World Health Organisation. Careful monitoring will be required to ensure that foods to which salt is added contain the expected quantity of iodine. This is particularly important given that a reduction in salt intake has been recommended, and may affect the salt and subsequent iodine content of manufactured foods<sup>6</sup>

Final determinations about these two important proposals to changes in food legislation are expected this year.



## References

- <sup>1</sup> FSANZ Food Standards Australia New Zealand. Proposal 295. Final Assessment Report. Consideration of mandatory fortification with folic acid, 2006.
- <sup>2</sup> FSANZ Food Standards Australia New Zealand. Proposal 230. Draft Assessment Report. Consideration of mandatory fortification with iodine, 2006.
- <sup>3</sup> Li M, Eastman CJ, Waite KV, Zacharin MR, Topliss DJ, Harding PE et al. Are Australian children iodine deficiency? Results of the Australian National Iodine Nutrition Study. *MJA*. 2006; 184 (4): 165-169.
- <sup>4</sup> Travers CA, Guttikonda K, Norton CA, Lewis PR, Mollart LJ, Wiley V et al. Iodine status in pregnant women and their newborns: are our babies at risk of iodine deficiency?
- <sup>5</sup> Ministry of Health. NZ Food NZ Children: Key results of the 2002 National Children's Nutrition Survey. Ministry of Health, Wellington. 2003.
- <sup>6</sup> NHMRC. Nutrient Reference Values for Australia and New Zealand. Commonwealth of Australia. 2006.

# Do television news images of obesity hinder prevention?

Catriona Bonfiglioli



Obesity news -- whether on television or in the newspapers -- is often illustrated with images of large bodies, frequently headless.

The failure to show their faces is likely to be the practical result of photographers seeking quick footage without consent, but the emotional effect is to dehumanise obese people.

Given the importance of preventing overweight and obesity, the question arises as to whether there is a serious mismatch between this goal of prevention and the images used to catch media audiences' attention.

So the extreme size of these people and their invisible faces place them in the category of the demonised 'other', thus distancing them from mildly overweight audiences who will not identify with them or the risks.

These images of very obese people certainly add drama to media coverage, constructing obesity as a compelling health scare.

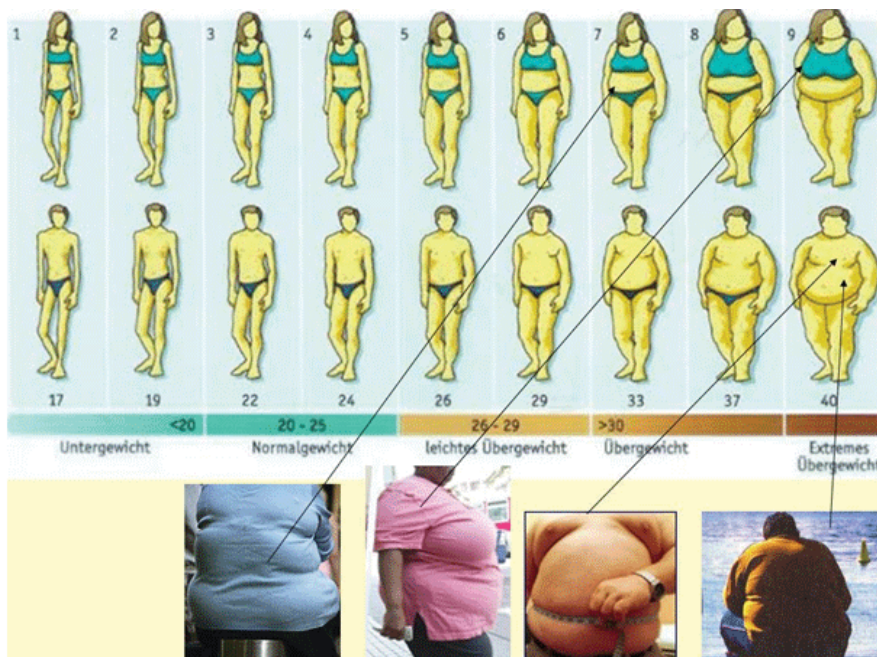
Why do newsmakers choose these bodies? Are they picked to illustrate the kinds of people who are at risk from obesity, are they singled out as freaks of nature who will scare people into taking more care over their weight or are they just there to sell the story?

But if the effective subtext is, as one obesity expert puts it, 'You don't need to worry about your weight until you look like that', the benefits to prevention may be minimised.

With the exception of some before-and-after stories about dieting success and stories which focus on children, the media favours images of obese or morbidly obese people. These people with sagging bellies, bulging bosoms, and thunder thighs are clearly people who already have a serious problem with obesity who may need more extreme interventions than just diet and exercise.

These images are unlikely to resonate with the people most likely to benefit from early changes to lifestyle, people who are slightly or moderately overweight.

Healthy weight people who may be on a trajectory to overweight because they eat too much junk food and drink and live sedentary lives are even more unlikely to identify with these people.



Obesity news images may catch audiences' attention but is the news reaching those who most need to hear it?

Image Sources:

<http://www.diaet-dresden.de/images/krank/bmi.jpg>

[http://www.smh.com.au/ffxim-age/2006/03/01/260\\_obesitygeneric2.jpg](http://www.smh.com.au/ffxim-age/2006/03/01/260_obesitygeneric2.jpg)

[http://www.abc.net.au/reslib/200403/r17105\\_42016.jpg](http://www.abc.net.au/reslib/200403/r17105_42016.jpg)

The Sunday Paper, Atlanta, Georgia, US.

<http://www.smh.com.au/news/science/at-last-all-you-can-eat-and-never-get-fat/2006/08/01/1154198137550.html>

What message is sent to viewers and readers when news stories about overweight & obesity are illustrated with photographs like these of people with very high BMIs?



# Unhealthy food marketing to children: industry exploiting loopholes in advertising regulations

Bridget Kelly



Television's role in the child obesity epidemic is many fold, contributing to sedentary behaviour, increased tendency to consume high energy snack foods and influencing children's diets through food advertising. In Australia, the level of television food advertising directed at children, and during children's popular programs is disproportionately high, with the majority of these advertisements being for unhealthy foods.

Australian regulations relating to television food advertising to children are based on a co-regulatory system coordinated by both the government and the television and advertising industries. The predominate and statutory code of practice, presided over by the government arm, The Australian Communication and Media Authority, is the Children's Television Standards (CTS). These standards are broad and open to subjective interpretation, and thus allow for loopholes which may be exploited by food marketers. Importantly, there is no formal monitoring of television advertising, but rather regulations rely on public complaints.

In a recent study, Centre for Overweight and Obesity and Centre for Physical Activity and Health researchers examined one week (357 hours) of television data to determine the extent of breaches to one section of the CTS, section 16, which specifies that advertisements are to be aired only twice within a 30-minute period during children's viewing

times. We counted 14 breaches of CTS 16, with 80% of these breaches being for unhealthy foods. Furthermore, it was found that advertisers circumvented this clause 26 times during the study week. Examples of these breaches and circumventions can be seen in the BOX.

The current regulations do not prevent the repetition of unhealthy television food advertising to children. While the regulation monitoring system remains reactive rather than proactive, breaches to the CTS will continue to go unpenalised.



Image Source: <http://msnbcmedia.msn.com>

	Breach of CTS 16	Circumvention of CTS 16
Method	Advertising a product more than twice in a 30-minute period	Showing advertisements twice every 30 minutes over several consecutive 30-minute sections OR Advertising multiple variations of a product within a 30-minute period
Example	Advertisements for a chocolate breakfast cereal were shown three times during a weekday morning cartoon program	Advertisements for a fast food restaurant children's meal was shown 10 times in 2.5 hours during Saturday morning cartoon programs

Reference:

Kelly, B & Chau J. Children's television sub-standards: a call for significant amendments. Medical Journal of Australia. 2007; 186 (1): 17.

## PRC placements for NSW Health trainees

The Prevention Research Centres (PRC) continue to support six-month placements of biostatistical and public health officer trainees from NSW Health. Robert Aitken, the most recent biostats trainee said "It has been a great learning experience, with exposure to world-class researchers. The PRC provided excellent support and the opportunity to publish my work". Rob has completed his work on Australian families' expenditure on active and screen recreation, using ABS data, and was replaced by Suzanne Schindeler, another NSW biostats trainee, in mid-February.

Michelle Cretikos, a public health officer trainee, recently commenced a placement with The Centre for Overweight and Obesity (COO). She is working on strategies to assist GPs to identify and manage overweight and obese children and adolescents attending general practice. Michelle is also involved in the process evaluation component of the Kids Healthy Eating and Physical Activity Program running in the Hunter New England Area.



Robert  
Aitken



Michelle  
Cretikos



Suzanne  
Schindeler

## Early career research grant awarded to CPAH researcher



Congratulations to Dr Heather Bowles who has been awarded a grant through the University of Sydney Research and Development Grants Scheme, supporting her work as an early career researcher. The grant will fund the project, "Redefining public health surveillance - Development of Internet-based health behaviour survey", whose purpose is to develop and test Internet-based measures of smoking, alcohol consumption, overweight and obesity, and physical activity used routinely in surveillance in Australia. The project focuses on assessment of physical activity to determine if the interactive features of the web can improve physical activity measurement. Heather is interested in developing and improving methods for assessing physical activity in population-based research, as well as understanding sources of error and exploring statistical methods to control for error in population estimates.

## AusPANet

The **Australian Physical Activity Network**, AusPANet (pronounced oz-par-net), is the first physical activity communication network of its kind in Australia.

AusPANet provides free access to timely and accurate information about physical activity; from developments in the area to commentaries on the latest research, to upcoming events and conferences. There are currently over 1,400 members who see physical activity as part of their role or interest, and who would like to access the most up-to-date physical activity information.

The network is a joint initiative of the National Heart Foundation of Australia and the Centre for Physical Activity and Health at the University of Sydney; and has attracted professionals from across Australia who work in various sectors, such as health, sport and transport.

One fortnightly email will ensure that you know what's happening in physical activity across Australia and around the world.

To become a member, register your details at: <http://auspanet.heartfoundation.com.au>